Amendments to the Claims

Please amend the claims as follows:

1. (once amended) A process for making dispersable surfactant capped nanocrystals of metal oxides which comprises : (a) mixing a solution of a metal cupferron precursor complex of the formula $M^{X}Cup_{X}$, wherein M^{X} is a metal ion in the oxidation state X selected from the group consisting of elements in Group 2, Group 3 – 12 of the 4th period, Group 3 – 6 of the 5th and 6th period, Group 10 – 12 of the 5th period, Group 12 of the 6th period, Group 13th and 14th, and the Lanthanide and Actinide series of the periodic table, and X is a number between 1 and 4, and Cup is a N-substituted N-nitroso hydroxylamine, with a coordinating surfactant , and (b) heating the mixture at a temperature and for a sufficient period of time to cause thermal decomposition of the $M^{X}Cup_{X}$ precursor and formation of the [desired] nanocrystals.

2. (once amended) The process of Claim 1 wherein [said] the process [reaction] is conducted in an inert atmosphere.

3. (original) The process of Claim 2 wherein said inert atmosphere is argon or nitrogen gas.

4. (once amended) The process of Claim 1 wherein said process [reaction] is conducted in the absence of water, air or oxygen.

5. (original) The process of Claim 1 wherein the mixture is heated to or maintained at a temperature ranging from about 150 °C to about 400 °C.

6. (original) The process of Claim 1 wherein M is Fe .

7. (original) The process of Claim 1 wherein M is Mn .

8. (original) The process of Claim 1 wherein M is Cu .

9. (original) The process of Claim 1 wherein said coordinating surfactant is an organic molecule consisting of a polar headgroup and an apolar group providing stabilization against coagulation and precipitation of particles.

10. (original) The process of Claim 9 wherein said coordinating surfactant is hexadecylamine or trioctylamine.

11. (once amended) The process of Claim 1 wherein said N-substituted N-nitroso hydroxylamine is N-nitroso-N-phenyl hydroxylamine[(Cupferron)].

12. (original) The process of Claim 1 wherein M is Fe , Cup is N- nitroso-N-phenyl hydroxylamine, and the coordinating surfactant is hexadecylamine.

13. (once amended) A process for making dispersable surfactant capped nanocrystals of metal oxides with non-hydroxylated particle surfaces which comprises mixing a solution of a metal cupferron complex of the formula M^XCup_X, wherein M^X is a metal ion in the oxidation state X selected from the group consisting of elements in Group 2, Group 3 – 12 of the 4^{th} period, Group 3 – 6 of the 5^{th} and 6^{th} period, Group 10 – 12 of the 5^{th} period, Group 12 of the 6^{th} period, Group 13^{th} and 14^{th}, and the Lanthanide and Actinide series of the periodic table, and X is a number between 1 and 4, and Cup is cupferron, into an amine based coordinating surfactant, at a temperature ranging from about 250 °C to about 300 °C, and allowing the reaction to proceed for a period of time sufficient to cause thermal decomposition of said MXCupX, and formation of the [desired] nanocrystals.

14. (original) A surfactant capped nanocrystal made in accordance with the process of Claim 1.

15. (once amended) A process for making soluble surfactant capped nanocrystals of transition metal oxides with non-hydroxylated particle surfaces which comprises injecting a

solution of a metal cupferron complex of the formula $M^{X}Cup_{X}$, where x is a number between 1 and 4, wherein M is selected from the group consisting of Fe , Mn , and Cu , and Cup is N-nitroso-N-phenyl hydroxylamine, into a coordinating surfactant , the injection [reaction] being conducted at a temperature ranging from about 220 °C to about 350 °C, for a period of time sufficient to complete the reaction.

16. (once amended) A process for making surfactant capped nanocrystals of transition metal oxides which comprises injecting a solution of a metal cupferron complex of the formula $M^{X}Cup_{X}$, where x is a number between 1 and 4, and wherein M is selected from the group consisting of Fe , Mn , and Cu , and Cup is N-nitroso-N-phenyl hydroxylamine, into an amine based coordinating surfactant , the injection [reaction] being conducted at a temperature ranging from about 150°C to about 400 °C, for a period of time sufficient to complete the reaction.

17. (once amended) The process of Claim 1 wherein the numerical value of X [ranges from 1 to 4] is 1.

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18. (new) The process of Claim 1 wherein the numerical value of X is 2.

19. (new) The process of Claim 1 wherein the numerical value of X is 3.

20. (new) The process of Claim 1 wherein the numerical value of X is 4.
